Supplementary Online Content

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This supplementary material has been provided by the authors to give readers additional information about their work.

eAppendix. Description radiofrequency denervation intervention.

Radiofrequency denervation of the facet joints:

A C-arm image intensifier was positioned in a slightly (10–15°) oblique position, with the patient in prone position. A 22 G SMK needle with a 10-mm active curved tip was introduced at each entry point. The position of the cannula was checked on the lateral and AP projection. The depth was adjusted until the tip of the cannula was at the level of a line connecting the posterior aspects of the intervertebral foramen. Sensory stimulation (50Hz) was positive when the patient felt paresthesia, and motor stimulation (2Hz) was positive with visible muscle stimulation but no leg contractions. Once the position of the electrode was satisfactory, 1-2 ml per level ml 2% lidocaine was injected and a 90°C 90 seconds RF lesion was made of the medial ramus dorsalis of L3-4, L4-5, and L5-S1.

Radiofrequency denervation of the sacroiliac joints:

The choice of technique for radiofrequency denervation was left to the discretion of the physician. Participants received either the Cooled RF technique (SInergy, Kimberly Clark Health Care, Roswell GA, USA); Bipolar Palisade Technique; or SIMPLICITY III Probe technique (Neurotherm, St Paul MN, USA).

For the Cooled RF technique1: Under fluoroscopy, 25G needles were placed along the lateral wall of each foramen, with the tip at the opening. An Epsilon® ruler was used together with the reference needles as landmarks for the lesions. Using the introducer, stylet and probe provided by the manufacturer, radiofrequency lesions were made (at

02:30, 04:00 and 05:30 for S1 and S2 and 02:30, 04:00 for S3 on the right side, inversely on the left) at a temperature of 60°C for 2.5 minutes per lesion.

The Palisade Technique[2]: was carried out by drawing a cranial-caudal line between the lateral aspect of the sacral foramina and the sacroiliac joint line. Under lateral fluoroscopic view six 20G needles with 10mm active tips were placed parallel to each other 10mm apart and perpendicular to the sacrum. Stimulations to 2.0V were done to be sure there was no motor response. Then eight lesions (90°C, 180 seconds per lesion) were made using adjacent parings of the cannulas. The maximum allowed temperature drop between cannulas was 30°C.

The SIMPLICITY III probe[3]: was inserted at the lateral, inferior border of the sacrum, 10mm below the S4 foramen under fluoroscopic view. The electrode probe was advanced in a cephalad direction along the sacrum, lateral of the foramina, medial to the sacroiliac joint and ventral to the ileum. The correct position of the electrodes was checked and the RF lesion (85°C for 90 seconds per step) was made.

In all three techniques RF lesion of the ramus dorsalis of L5/S1 was carried out monopolar.[4] All lesion sites were anesthetized using 2% lidocaine.

Radiofrequency denervation in the combination trial:

As opposed to the other two trials, participants of the combination trial were randomized before a diagnostic block was done. Patients were only treated with a radiofrequency denervation when randomized to the intervention group and a positive diagnostic block of the facet joint or sacroiliac joint, or a positive provocative discography.[5] If none of the diagnostic tests were positive, the participant would receive the standardized exercise

program only. The facet joint and sacroiliac joint radiofrequency denervation were performed as described above. The treatment of the intervertebral disc could be done by one of two radiofrequency denervation techniques: Intradiscal Electrothermal Therapy or Biacuplasty.

Intradiscal Electrothermal Therapy: Using fluoroscopic control, with the patient prone on the operating table, a needle was passed into the injured disc via the side. With the needle placed alongside the internal aspect of the posterior annulus, the catheter containing the heating coil was manipulated inside the disc. The temperature inside the disc was raised to 90°C in 12 minutes, and maintained at 90°C for another four minutes.

Biacuplasty: Two internally cooled 17 G needles were inserted at the level of the annulus fibrosis. Two RF currents were inserted to generate a bipolar configuration. The ideal temperature profile is 55/60°C in the inner posterior disc decreasing to 45°C for 12 to 16 minutes in the peripheral edge of the posterior disc.

eTable 1. Baseline Characteristics of Completers vs Non-completers

Characteristics*	Intervention Randomized: N=125 Complete baseline: N=117	Intervention Complete N=78 Complete baseline: N=78	Intervention Incomplete N=47 Complete baseline: N=39	Control Randomized: N=126 Complete baseline: N=116	Control Complete N=88 Complete baseline: N=88	Control Incomplete N=38 Complete baseline: N=28
FACET JOINT TRIAL						
Age in years (SD)	52.98 (11.48)	54.45 (10.90)	50.10 (12.01)	52.60 (10.79)	53.20 (10.48)	50.71 (11.79)
Female (N (%))	65 (55.56%)	45 (57.69%)	19 (48.71%)	60 (51.72%)	48 (54.54%)	16 (57.14%)
BMI (SD)	26.77 (5.17)	27.23 (5.70)	25.85 (3.76)	27.62 (4.27)	27.94 (4.32)	26.62 (4.07)
Smoker (N (%))	34 (29.05 %)	16 (20.51%)	18 (46.15%)	34 (29.05%)	22 (25.00%)	12 (42.85%)
Education§						
Low (N (%))	57 (48.72%)	40 (51.28%)	18 (48.61%)	64 (55.17 %)	48 (54.54%)	17 (60.71%)
Moderate (N (%))	35 (29.99%)	22 (28.21%)	13 (33.33%)	34 (29.31%)	27 (30.68%)	8 (28.57%)
High (N (%))	21 (17.95%)	16 (20.51%)	6 (15.38%)	16 (13.79 %)	13 (14.77%)	3 (10.71%)
History of back pain complaints						
Time since first experience with low back pain in months (median (IQR))	146.00 (49.75-267.67)	158.17 (42.29 – 304.17)	146.00 (54.73-220.00)	100.33 (36.5-186.30)	115.58 (36.50-186.30)	83.75 (49.73 – 220.63)
Time since current episode with low back pain in months (median (IQR))	31.33 (12.17-103.42)	29.33 (12.17 – 83.58)	36.50 (8.33-130.63)	26.73 (10.54-73.00)	30.33 (12.17 – 77.57)	19.75 (7.25-70.20)
Married or living with a partner (N (%))	93 (79.49%)	68 (87.17%)	25 (64.10%)	98 (84.48%)	76 (86.36%)	22 (78.57%)
Expectations (CEQ) [a]						
Credibility (0-27)	21.36 (3.92)	21.84 (3.38)	20.36 (4.76)	19.47 (5.49)	19.19 (5.87)	20.32 (4.08)
Expectancy (0-27)	18.97 (4.59)	19.35 (4.35)	18.18 (5.02)	17.36 (5.20)	16.85 (5.62)	18.96 (3.16)

Characteristics*	Intervention Randomized: N=125 Complete baseline: N=117	Intervention Complete N=78 Complete baseline: N=78	Intervention Incomplete N=47 Complete baseline: N=39	Control Randomized: N=126 Complete baseline: N=116	Control Complete N=88 Complete baseline: N=88	Control Incomplete N=38 Complete baseline: N=28
Mean (SD) Pain intensity in the past week (NRS 0-10) [b]	7.14 (1.38)	6.99 (1.48)	7.44 (1.11)	7. 19 (1.29)	7.14 (1.27)	7.36 (1.39)
Mean (SD) Functioning (ODI 0-100) [c]	35.07 (14.66)	35.02 (14.02)	35.18 (16.07)	34.39 (12.24)	33.88 (11.52)	36.00 (14.36)
Mean (SD) Quality of life (EQ-5D 0-1) [d]	0.52 (0.26)	0.55 (0.24)	0.46 (0.29)	0.54 (0.26)	0.55 (0.26)	0.52 (0.25)
SACROILIAC JOINT TRIAL						
Age in years (SD)	51.58 (10.94)	53.10 (10.46)	48.56 (11.37)	51.13 (12.22)	53.33 (11.62)	48.83 (12.52)
Female (N (%))	87 (74.35%)	63 (82.89%)	24 (77.42%)	79 (75.96%)	42 (73.68%)	37 (78.09%)
BMI (SD)	26.73 (4.17)	26.79 (4.16)	26.57 (4.25)	26.76 (4.53)	26.89 (4.70)	26.61 (4.36)
Smoker (N (%))	29 (26.61%)	19 (25.00%)	10 (32.26%)	31 (29.81%)	18 (31.57%)	13 (30.95%)
Education§						
Low (N (%))	59 (54.13%)	45 (59.51%)	14 (45.16%)	53 (50.96%)	30 (52.63%)	23 (54.76%)
Moderate (N (%))	32 (29.36%)	20 (26.31%)	12 (38.7%)	32 (30.76%)	21 (36.84%)	11 (26.19%)
High (N (%))	18 (16.51%)	12 (15.78%)	6 (19.35%)	18 (17.31%)	6 (10.52%)	12 (28.57 %)
History of back pain complaints						
Time since first experience with low back pain in months (median (IQR))	97.33 (37.51-228.12)	109.50 (41.02-243.33)	79.08 (36.50-164.43)	65.08 (27.08-144.21)	60.83 (27.83-121.67)	103.33 (24.33-219.00)

Characteristics*	Intervention Randomized: N=125 Complete baseline: N=117	Intervention Complete N=78 Complete baseline: N=78	Intervention Incomplete N=47 Complete baseline: N=39	Control Randomized: N=126 Complete baseline: N=116	Control Complete N=88 Complete baseline: N=88	Control Incomplete N=38 Complete baseline: N=28
Time since current episode with low back pain in months (median (IQR))	30.33 (12.17 – 76.03)	26.33 (10.00 - 79.08)	34.75 (13.52 - 77.55)	24.33 (12.17 – 66.58)	20.17 (9.50- 53.17)	36.50 (16.17 -73.00)
Married or living with a partner (N (%))	85 (79.61%)	64 (84.21%)	21 (67.74%)	82 (79.61%)	49 (85.96%)	33 (78.57%)
Expectations (CEQ) [a]						
Credibility (0-27)	21.36 (4.51)	21.18 (4.51)	21.77 (4.56)	19.88 (5.31)	20.05 (5.60)	19.64 (4.94)
Expectancy (0-27)	18.75 (4.99)	18.86 (4.82)	18.48 (5.47)	18.23 (5.31)	18.51 (5.09)	17.88 (5.64)
Mean (SD) Pain intensity in the past week (NRS 0-10) [b]	7.17 (1.65)	7.09 (1.78)	7.34 (1.310)	7.06 (1.43)	7.12 (1.68)	6.98 (1.035)
Mean (SD) Functioning (ODI 0-100) [c]	38.07 (14.07)	38.26 (14.97)	37.63 (11.81)	33.70 (14.43)	34.46 (14.23)	32.70 (14.79)
Mean (SD) Quality of life (EQ-5D 0-1) [d]	0.50 (0.27)	0.50 (0.28)	0.47 (0.26)	0.56 (0.27)	0.54 (0.27)	0.60 (0.26)
COMBINATION TRIAL						
Age in years (SD)	50.80 (11.33)	51.02 (11.51)	50.39 (11.56)	53.31 (10.35)	54.65 (11.00)	52.92 (9.66)
Female N (%)	64 (65.31%)	48 (80.00%)	27 (72.93%)	66 (74.15 %)	35 (76.10%)	38 (71.71%)
BMI (SD)	26.84 (3.82)	26.70 (3.92)	27.06 (3.69)	26.43 (4.25)	26.29 (3.60)	26.57 (4.86)
Smoker N (%)	23 (23.46%)	12 (20.00%)	11 (28.94%)	26 (29.21%)	11 (23.91%)	15 (34.88%)
Education§						
Low N (%)	52 (53.06%)	32 (53.33%)	19 (50.00%)	43 (48.31%)	21 (45.65%)	21 (48.84%)
Moderate N (%)	33 (33.67%)	18 (30.00%)	12 (31.58%)	32 (35.96%)	17 (36.56%)	13 (30.23%)
High N (%)	12 (12.24%)	8 (13.33%)	4 (10.53%)	14 (15.73%)	6 (13.04%)	8 (18.60%)

Characteristics*	Intervention Randomized: N=125 Complete baseline: N=117	Intervention Complete N=78 Complete baseline: N=78	Intervention Incomplete N=47 Complete baseline: N=39	Control Randomized: N=126 Complete baseline: N=116	Control Complete N=88 Complete baseline: N=88	Control Incomplete N=38 Complete baseline: N=28
History of back pain complaints						
Time since first experience with low back pain in months median (IQR)	120.58 (37.32 – 222.04)	124.92 (55.46 - 240.29)	76.03 (30.83 - 124.71)	97.33 (32.33 – 192.58)	121.67 (34.42 – 231.17)	85.17 (27.83 – 176.37)
Time since current episode with low back pain in months median (IQR)	36.50 (12.17-121.67)	36.50 (14.18-119.63)	36.50 (11.88-121.67)	32.33 (8.00 – 97.19)	32.33 (11.08-21.67)	32.33 (8.00-96.77)
Married or living with a partner N (%)	66 (67.35%)	43 (71.67%)	23 (60.53%)	68 (76.40%)	36 (78.26%)	32 (74.42%)
Expectations (CEQ) [a]						
Credibility (0-27)	20.10 (4.70)	20.45 (4.10)	19.54 (5.55)	17.07 (5.99)	16.33 (5.95)	17.90 (5.99)
Expectancy (0-27)	16.88 (5.78)	17.57 (5.85)	15.75 (5.55)	14.38 (6.24)	13.38 (6.42)	15.50 (5.92)
Mean (SD) Pain intensity in the past week (NRS 0-10) [b]	7.19 (1.43)	7.30 (1.28)	7.03 (1.65)	7.43 (1.41)	4.47 (1.25)	7.39 (1.58)
Mean (SD) Functioning (ODI 0-100) [c]	39.06 (14.03)	38.00 (13.12)	40.74 (15.38)	37.20 (13.74)	37.16 (15.57)	37.25 (11.54)
Mean (SD) Quality of life (EQ-5D 0-1) [d]	0.49 (0.28)	0.50 (0.28)	0.47 (0.28)	0.52 (0.28)	0.54 (0.28)	0.49 (0.29)

Abbreviations: SD, Standard Deviation; N, number; BMI, Body Mass Index; IQR, interquartile range; CEQ, credibility expectancy questionnaire; NRS, Numeric Rating Scale, ODI: Oswestry Disability Index; EQ-5D, EuroQol-5D

§ Low= pre-school, primary school, lower secondary school; moderate= higher secondary school, undergraduate; high=tertiary, university, or postgraduate

[a] A higher score indicates more credibility in the effectiveness of the treatment, or higher expectations about the treatment [b] A higher score indicates more severe pain intensity [c] A higher score indicates worse functioning [d] A higher score indicates better quality of life

eTable2. Treatment Effects for Secondary Outcomes Based on Intention-to-Treat Analyses

Facet Joint Trial	Mean Intervention group (95%CI) N=125	Mean Control group (95%CI) N=126	Mean difference (95%CI)	P value
EQ5D Utilities***				
Overall effect			0.01 (-0.03 to 0.04)	0.75
Baseline (SD)	0.52 (0.47 to 0.57)	0.54 (0.49 to 0.59)		
3 weeks	0.69 (0.64 to 0.73)	0.64 (0.59 to 0.68)	0.05 (-0.01 to 0.10)	0.08
6 weeks	0.69 (0.66 to 0.73)	0.67 (0.63 to 0.70)	0.03 (-0.03 to 0.08)	0.32
3 months	0.68 (0.64 to 0.73)	0.69 (0.65 to 0.73)	-0.01 (-0.06 to 0.05)	0.85
6 months	0.73 (0.70 to 0.77)	0.71 (0.67 to 0.76)	0.02 (-0.03 to 0.07)	0.42
9 months	0.72 (0.68 to 0.76)	0.75 (0.71 to 0.78)	-0.05 (-0.10 to 0.01)	0.11
12months	0.73 (0.69 to 0.73)	0.73 (0.69 to 0.77)	-0.03 (-0.08 to 0.03)	0.37
Patient satisfaction**				
Overall effect			-0.01 (-0.30 to 0.28)	0.96
3 months	2.95(2.70 to 3.20)	3.26 (3.00 to 3.52)	-0.18 (-0.54 to 0.18)	0.34
6 months	2.96 (2.74 to 3.17)	3.06 (2.81 to 3.31)	0.01 (-0.35 to 0.38)	0.94

9 months	2.88 (2.63 to 3.12)	3.13 (2.83 to 3.42)	-0.02 (-0.39 to 0.35)	0.91
12 months	2.88 (2.60 to 3.16)	3.01 (2.73 to 3.29)	0.19 (-0.19 to 0.56)	0.32
MPI Pain severity**				
Overall effect			0.05 (-0.21 to 0.32)	0.7
Baseline	3.87 (3.68 to 4.06)	3.85 (3.70 to 4.00)		
3 months	2.96 (2.71 to 3.21)	3.20 (2.96 to 3.44)	-0.15 (-0.48 to 0.18)	0.36
6 months	2.73 (2.48 to 2.98)	2.84 (2.58 to 3.11)	-0.03 (-0.37 to 0.31)	0.86
9 months	2.73 (2.45 to 3.02)	2.68 (2.40 to 2.97)	0.16 (-0.18 to 0.50)	0.36
12 months	2.65 (2.34 to 2.95)	2.58 (2.30 to 2.85)	0.27 (-0.07 to 0.61)	0.12
MPI interference**				
Overall effect			-0.06 (-0.31 to 0.19)	0.63
Baseline	3.30 (3.07 to 3.52)	3.12 (2.91 to 3.34)		
3 months	2.62 (2.37 to 2.87)	2.74 (2.48 to 2.99)	-0.15 (-0.44 to 0.14)	0.32
6 months	2.59 (2.33 to 2.85)	2.57 2.31 to 2.84)	-0.02 (-0.31 to 0.27)	0.88
9 months	2.38 (2.08 to 2.67)	2.43 (2.14 to 2.72)	-0.06 (-0.36 to 0.24)	0.70

12 months	2.40 (2.10 to 2.70)	2.42 (2.12 to 2.71)	-0.01 (-0.31 to 0.29)	0.93
MPI Life control**				
Overall effect			0.00 (-0.20 to 0.20)	0.98
Baseline	3.92 (3.72 to 4.12)	4.18 (4.02 to 4.34)		
3 months	4.26 (4.06 to 4.45)	4.17 (3.99 to 4.35)	0.17 (-0.08 to 0.41)	0.18
6 months	4.13 (3.91 to 4.34)	4.32 (4.13 to 4.52)	-0.15 (-0.41 to 0.10)	0.23
9 months	4.26 (4.05 to 4.46)	4.31 (4.11 to 4.51)	-0.00 (-0.25 to 0.25)	0.99
12 months	4.28 (4.07 to 4.48)	4.32 (4.11 to 4.54)	-0.02 (-0.28 to 0.23)	0.86
MPI Affective distress**				
Overall effect			0.03 (-0.10 to 0.16)	0.69
Baseline	2.71 (2.56 to 2.86)	2.60 (2.46 to 2.73)		
3 months	2.56 (2.43 to 2.69)	2.46 (2.33 to 2.60)	0.07 (-0.11 to 0.24)	0.46
6 months	2.55 (2.41 to 2.69)	2.52 (2.38 to 2.67)	-0.03 (-0.20 to 0.15)	0.78
9 months	2.49 (2.34 to 2.63)	2.43 (2.29 to 2.56)	0.06 (-0.12 to 0.24)	0.51
12 months	2.47 (2.34 to 2.61)	2.48 (2.35 to 2.60)	-0.00 (-0.19 to 0.18)	0.97
MPI Support**				

Overall effect			0.06 (-0.14 to 0.26)	0.56
Baseline	4.60 (4.41 to 4.80)	4.42 (4.20 to 4.64)		
3 months	4.43 (4.22 to 4.64)	4.35 (4.10 to 4.60)	-0.03 (-0.29 to 0.24)	0.85
6 months	4.34 (4.09 to 4.58)	4.22 (3.95 to 4.51)	0.02 (-0.25 to 0.29)	0.88
9 months	4.36 (4.10 to 4.63)	4.17 (3.89 to 4.45)	0.12 (-0.15 to 0.39)	0.38
12 months	4.37 (4.12 to 4.62)	4.15 (3.83 to 4.46)	0.15 (-0.13 to 0.42)	0.3
RAND-36 Physical health***				
Overall effect			-0.42 (-4.11 to 3.26)	0.82
Baseline	46.20 (42.68 to 49.71)	47.20 (44.09 to 50.30))		
3 months	57.67 (53.80 to 61.54)	53.79 (49.91 to 57.67)	3.41 (-0.89 to 7.71)	0.12
6 months	57.68 (53.80 to 61.56)	56.85 (52.99 to 60.71)	0.21 (-4.15 to 4.56)	0.93
9 months	56.89 (52.68 to 60.09)	58.70 (54.93 to 62.47)	-2.07 (-6.47 to 2.32)	0.35
12 months	57.30 (52.79 to 61.82)	58.87 (54.88 to 62.86)	-4.02 (-8.45 to 0.40)	0.07
RAND-36 mental health***				
Overall effect			-0.69 (-3.35 to 1.96)	0.61

Baseline	73.68 (70.85 to 76.50)	75.24 (72.52 to 77.97)		
3 months	75.42 (72.27 to 78.58)	75.96 (73.01 to 78.92)	-0.66 (-3.91 to 2.60)	0.69
6 months	77.36 (74.28 to 80.43)	77.46 (74.46 to 80.46)	-0.18 (-3.49 to 3.14)	0.92
9 months	76.75 (73.51 to 80.00)	77.15 (74.00 to 80.30)	-1.68 (-5.03 to 1.67)	0.33
12 months	77.98 (74.84 to 81.12)	76.84 (73.79 to 80.09)	-0.26 (-3.64 to 3.13)	0.88
SACROILIAC JOINT TRIAL	**Mean Intervention group (95%CI) N=116**	**Mean Control group (95%CI) N=112**	**Mean difference (95%CI)**	**P-value**
EQ5D Utilities***				
Overall effect			0.02 (-0.02 to 0.06)	0.27
Baseline	0.50 (0.44 to 0.55)	0.56 (0.51 to 0.62)		
3 weeks	0.73 (0.69 to 0.76)	0.62 (0.57 to 0.68)	0.10 (0.03 to 0.16)	0.002
6 weeks	0.69 (0.64 to 0.73)	0.66 (0.61 to 0.71)	0.04 (-0.02 to 0.09)	0.22
3 months	0.68 (0.64 to 0.73)	0.66 (0.60 to 0.71)	0.05 (-0.01 to 0.11)	0.11
6 months	0.74 (0.70 to 0.78)	0.73 (0.69 to 0.78)	0.001 (-0.06 to 0.06)	0.98
9 months	0.68 (0.63 to 0.73)	0.73 (0.69 to 0.78)	-0.05 (-0.11 to 0.02)	0.15

12months	0.70 (0.65 to 0.74)	0.73 (0.68 to 0.78)	-0.02 (-0.09 to 0.04)	0.52
NRS patient satisfaction**				
Overall effect			-0.21 (-0.54 to 0.13)	0.23
3 months	2.94 (2.67 to 3.20)	3.42 (3.09 to 3.75)	-0.54 (-0.96 to -0.13)	0.01
6 months	2.86 (2.59 to 3.13)	2.97 (2.66 to 3.27)	-0.05 (-0.46 to 0.37)	0.83
9 months	3.05 (2.75 to 3.35)	3.14 (2.79 to 3.49)	-0.06 (-0.49 to 0.36)	0.78
12 months	3.03 (2.74 to 3.32)	3.25 (2.92 to 3.59)	-0.16 (-0.59 to 0.26)	0.45
MPI Pain severity**				
Overall effect			-0.06 (-0.38 to 0.25)	0.70
Baseline	3.99 (3.80 to 4.18)	3.76 (3.54 to 3.98)		
3 months	2.90 (2.61 to 3.18)	3.17 (2.85 to 3.48)	-0.42 (-0.46 to -0.38)	<0.0001
6 months	2.71 (2.43 to 2.99)	2.74 (2.42 to 3.06)	-0.07 (-0.46 to 0.33)	0.73
9 months	3.01 (2.74 to 3.28)	2.76 (2.43 to 3.08)	0.18 (-0.23 to 0.59)	0.39
12 months	2.87 (2.57 to 3.15)	2.71 (2.37 to 3.05)	0.13 (-0.29 to 0.54)	0.54
MPI interference**				
Overall effect			-0.04 (-0.31 to 0.23)	0.77

Baseline	3.60 (3.37 to 3.84)	3.32 (3.05 to 3.57)		
3 months	3.19 (2.95 to 3.44)	2.96 (2.67 to 3.25)	-0.10 (-0.43 to 0.24)	0.57
6 months	2.86 (2.60 to 3.13)	2.83 (2.50 to 3.13)	-0.09 (-0.43 to 0.24)	0.59
9 months	2.85 (2.56 to 3.15)	2.68 (2.35 to 3.02)	-0.02 (-0.37 to 0.32)	0.89
12 months	2.92 (2.62 to 3.22)	2.69 (2.37 to 3.01)	0.10 (-0.25 to 0.45)	0.59
MPI Life control**				
Overall effect			0.07 (-0.12 to 0.27)	0.47
Baseline	4.11 (3.91 to 4.31)	4.22 (4.04 to 4.40)		
3 months	4.32 (4.12 to 4.53)	4.23 (3.99 to 4.46)	0.22 (-0.03 to 0.48)	0.08
6 months	4.42 (4.24 to 4.60)	4.35 (4.14 to 4.57)	0.04 (-0.21 to 0.30)	0.74
9 months	4.28 (4.07 to 4.50)	4.40 (4.14 to 4.66)	-0.06 (-0.32 to 0.20)	0.65
12 months	4.39 (4.17 to 4.60)	4.37 (4.09 to 4.65)	0.06 (-0.21 to 0.32)	0.66
MPI Affective distress**				
Overall effect			0.07 (-0.07 to 0.20)	0.32
Baseline	2.75 (2.59 to 2.91)	2.66 (2.50 to 2.82)		

3 months	2.54 (2.39 to 2.68)	2.44 (2.28 to 2.59)	0.08 (-0.12 to 0.27)	0.44
6 months	2.54 (2.42 to 2.73)	2.58 (2.42 to 2.73)	-0.03 (-0.22 to 0.17)	0.79
9 months	2.62 (2.45 to 2.80)	2.44 (2.29 to 2.59)	0.19 (-0.01 to 0.39)	0.07
12 months	2.45 (2.30 to 2.60)	2.41 (2.25 to 2.56)	0.05 (-0.15 to 0.25)	0.62
MPI Support**				
Overall effect			-0.00 (-0.25 to 0.24)	0.99
Baseline	4.95 (4.67 to 5.23)	4.89 (4.64 to 5.13)		
3 months	4.88 (4.60 to 5.16)	4.69 (4.37 to 5.01)	0.01 (-0.31 to 0.33)	0.97
6 months	4.74 (4.44 to 5.03)	4.83 (4.51 to 5.14)	-0.09 (-0.42 to 0.24)	0.59
9 months	4.83 (4.51 to 5.15)	4.76 (4.44 to 5.07)	-0.00 (-0.34 to 0.33)	0.98
12 months	4.74 (4.42 to 5.06)	4.79 (4.43 to 5.16)	0.10 (-0.24 to 0.44)	0.57
RAND-36 Physical health***				
Overall effect			-1.22 (-5.19 to 2.75)	0.55
Baseline	45.50 (42.14 to 48.87)	48.50 (44.60 to 52.40)		
3 months	53.91 (50.09 to 57.73)	54.37 (49.76 to 58.98)	2.21 (-2.82 to 7.24)	0.39

6 months	57.04 (52.98 to 51.10)	59.48 (55.21 to 63.76)	-1.80 (-6.88 to 3.27)	0.49
9 months	55.30 (51.10 to 59.50)	60.52 (56.16 to 64.88)	-4.35 (-9.54 to 0.85)	0.10
12 months	56.98 (52.50 to 61.46)	59.80 (55.25 to 64.34)	-1.48 (-6.73 to 3.77)	0.58
RAND-36 mental health***				
Overall effect			0.038 (-175 to 1.82)	0.97
Baseline	76.40 (73.53 to 79.28)	76.76 (73.99 to 79.53)		
3 months	76.87 (73.89 to 79.86)	76.78 (73.36 to 80.21)	0.79 (-2.09 to 3.67)	0.59
6 months	62.77 (61.51 to 64.03)	63.03 (61.21 to 64.86)	-0.64 (-3.56 to 2.29)	0.67
9 months	62.84 (61.39 to 64.39)	62.86 (60.96 to 64.75)	0.03 (-2.99 to 3.04)	0.98
12 months	62.64 (60.99 to 64.30)	62.43 (60.57 to 64.30)	-0.06 (-3.12 to 3.01)	0.97
COMBINATION TRIAL	**Mean Intervention group (95%CI) N=103**	**Mean Control group (95%CI) N=99**	**Mean difference (95%CI)**	**P-value**
EQ5D Utilities***				
Overall effect			0.04 (-0.01 to 0.09)	0.12
Baseline	0.48 (0.43 to 0.54)	0.52 (0.45 to 0.58)		
3 weeks	0.64 (0.57 to 0.70)	0.60 (0.53 to 0.67)	0.06 (-0.02 to 0.14)	0.15

6 weeks	0.70 (0.66 to 0.75)	0.57 (0.51 to 0.64)	0.14 (0.07 to 0.22)	0
3 months	0.69 (0.64 to 0.74)	0.63 (0.57 to 0.69)	0.09 (0.01 to 0.16)	0.02
6 months	0.69 (0.64 to 0.72)	0.69 (0.63 to 0.74)	0.01 (-0.06 to 0.09)	0.74
9 months	0.65 (0.59 to 0.72)	0.70 (0.64 to 0.76)	-0.02 (-0.06 to 0.09)	0.62
12months	0.64 (0.58 to 0.70)	0.74 (0.69 to 0.80)	-0.07 (-0.15 to 0.01)	0.08
Patient satisfaction**				
Overall effect			-0.17 (-0.56 to 0.22)	0.39
3 months	2.98 (2.73 to 3.22)	3.48 (3.17 to 3.78)	-0.52 (-0.97 to -0.07)	0.02
6 months	3.05 (2.73 to 3.36)	3.13 (2.84 to 3.43)	-0.056 (-0.51 to 0.40)	0.81
9 months	3.16 (2.84 to 3.47)	3.29 (2.94 to 3.63)	-0.13 (-0.59 to 0.34)	0.60
12 months	3.32 (2.96 to 3.68)	3.08 (2.73 to 3.43)	0.10 (-0.37 to 0.58)	0.67
MPI Pain severity**				
Overall effect			0.02 (-0.34 to 0.38)	0.91
Baseline	4.00 (3.82 to 4.18)	3.96 (3.74 to 4.19)		
3 months	2.99 (2.70 to 3.28)	3.42 (3.10 to 3.74)	-0.50 (-0.94 to -0.05)	0.02

6 months	3.06 (2.72 to 3.40)	2.90 (2.58 to 3.23)	0.26 (-0.18 to 0.71)	0.24
9 months	3.09 (2.75 to 3.43)	3.05 (2.68 to 3.42)	0.10 (-0.35 to 0.55)	0.67
12 months	3.07 (2.73 to 3.41)	2.61 (2.22 to 2.99)	0.68 (0.22 to 1.15)	0
MPI interference**				
Overall effect			0.09 (-0.24 to 0.43)	0.58
Baseline	3.35 (3.09 to 3.61)	3.25 (2.97 to 3.53)		
3 months	2.84 (2.56 to 3.13)	2.92 (2.57 to 3.26)	-0.18 (-0.58 to 0.21)	0.36
6 months	2.80 (2.46 to 3.15)	2.57 (2.27 to 2.88)	0.30 (-0.10 to 0.70)	0.14
9 months	2.78 (2.45 to 3.11)	2.77 (2.39 to 3.16)	0.01 (-0.40 to 0.43)	0.95
12 months	2.87 (2.52 to 3.23)	2.45 (2.06 to 2.82)	0.31 (-0.11 to 0.73)	0.15
MPI Life control**				
Overall effect			0.09 (-0.17 to 0.34)	0.49
Baseline	3.98 (3.76 to 4.21)	4.09 (3.91 to 4.27)		
3 months	4.15 (3.90 to 4.39)	3.97 (3.75 to 4.19)	0.28 (-0.05 to 0.61)	0.09
6 months	4.16 (3.92 to 4.41)	4.10 (3.86 to 4.34)	0.10 (-0.23 to 0.44)	0.54

9 months	4.06 (3.77 to 4.36)	4.09 (3.81 to 4.38)	-0.02 (-0.36 to 0.32)	0.91
12 months	4.07 (3.78 to 4.35)	4.25 (3.96 to 4.54)	-0.05 (-0.40 to 0.30)	0.77
MPI Affective distress**				
Overall effect			0.03 (-0.15 to 0.21)	0.74
Baseline	2.66 (2.49 to 2.83)	2.62 (2.47 to 2.78)		
3 months	2.53 (2.36 to 2.70)	2.68 (2.48 to 2.88)	-0.20 (-0.43 to 0.04)	0.10
6 months	2.58 (2.40 to 2.76)	2.48 (2.30 to 2.66)	0.11 (-0.13 to 0.35)	0.36
9 months	2.67 (2.49 to 2.85)	2.61 (2.43 to 2.80)	0.09 (-0.16 to 0.33)	0.49
12 months	2.57 (2.38 to 2.76)	2.43 (2.24 to 2.62)	0.17 (-0.08 to 0.42)	0.19
MPI Support**				
Overall effect			0.13 (-0.15 to 0.40)	0.36
Baseline	4.56 (4.26 to 4.86)	4.67 (4.44 to 4.90)		
3 months	4.48 (4.16 to 4.81)	4.54 (4.25 to 4.83)	0.05 (-0.30 to 0.41)	0.76
6 months	4.36 (4.00 to 4.72)	4.35 (4.03 to 4.67)	0.17 (-0.18 to 0.53)	0.34
9 months	4.47 (4.10 to 4.83)	4.40 (4.08 to 4.72)	0.16 (-0.20 to 0.53)	0.38

12 months	4.56 (4.20 to 4.92)	4.51 (4.18 to 4.85)	0.11 (-0.27 to 0.49)	0.57
RAND-36 Physical health***				
Overall effect			-2.44 (-7.20 to 2.33)	0.32
Baseline	45.61 (41.93 to 49.29)	48.35 (44.39 to 52.31)		
3 months	54.66 (50.49 to 58.82)	50.06 (45.39 to 54.73)	4.20 (-1.49 to 9.89)	0.15
6 months	52.87 (48.00 to 57.72)	57.73 (53.20 to 62.27)	-5.39 (-11.18 to 0.39)	0.07
9 months	52.87 (48.02 to 57.71)	54.69 (49.40 to 59.99)	-2.20 (-8.11 to 3.70)	0.46
12 months	52.73 (47.62 to 55.00)	62.25 (57.51 to 66.98)	-8.72 (-14.77 to -2.67)	0.00
RAND-36 mental health***				
Overall effect			-0.23 (-4.16 to 3.56)	0.88
Baseline	72.49 (69.34 to 75.64)	77.55 (74.97 to 80.13)		
3 months	74.02 (70.40 to 77.65)	74.84 (71.18 to 78.49)	1.57 (-3.02 to 6.17)	0.5
6 months	73.04 (69.41 to 76.66)	76.32 (72.63 to 80.00)	-0.82 (-5.48 to 3.84)	0.73
9 months	74.00 (70.10 to 77.90)	76.18 (72.74 to 79.62)	-0.46 (-5.20 to 4.28)	0.85
12 months	72.96 (68.54 to 77.37)	76.53 (72.66 to 80.40)	-1.94 (-6.79 to 2.91)	0.43

Values presented are model estimates of linear mixed-effects models with a random intercept, and adjusted for outcome at baseline and age, gender, BMI, education, smoking, marital status, back pain complaint history, patient expectations and baseline values. Regression coefficients can be interpreted as mean differences between interventions at a certain follow-up moment compared to baseline. Abbreviation: EQ5D; Utility scores based on the EuroQol5D; MPI, Multidimensional Pain Inventory; RAND-36, Research and Development 36 item health survey. ** Higher score indicates less satisfaction or severe symptoms on the MPI. Range for patient satisfaction, 1-7, for MPI 0-6. *** Higher score indicates more quality of life. Range for EQ5D utility: 0-1; for RAND36: 0-100.

eTable 3. As Treated Analysis for Pain Intensity, Functional Status, and Global Perceived Recovery, Without Protocol Violators Based on Intention-to-Treat Analyses

FACET JOINT TRIAL (without 12 protocol violators)	Mean Intervention group (95%CI) N=125	Mean Control group (95%CI) N=114	Mean difference (95%CI)	P-value		
NRS Pain*						
Overall effect†			-0.21	0.31		
			(-0.62 to 0.20)			
Baseline	7.14	7.22	-	-		
	(6.88 to 7.39)	(6.96 to 7.47)				
3 weeks	5.17	5.99	-0.53	0.09		
	(4.73 to 5.61)	(5.64 to 6.34)	(-1.13 to 0.08)			
6 weeks	5.19	5.95	-0.5	0.09		
	(4.76 to 5.61)	(5.61 to 6.29)	(-1.08 to 0.08)			
3 months	5.01	5.5	-0.29	0.32		
	(4.59 to 5.43)	(5.09 to 5.91)	(-0.87 to 0.29)			
6 months	4.61	4.92	-0.12	0.68		
	(4.18 to 5.04)	(4.45 to 5.38)	(-0.72 to 0.47)			
9 months	4.66	4.95	-0.05	0.87		

	(4.20 to 5.00)	(4.45 to 5.44)	(-0.65 to 0.55)			
12months	4.49	4.56	0.31	0.31		
	(4.00 to 4.97)	(4.05 to 5.07)	(-0.29 to 0.92)			
Secondary outcomes						
ODI Functioning*						
Overall effect†			0.09	0.96		
			(-3.76 to 3.93)			
Baseline	35.08	34.74	-	-		
	(32.39 to 37.76)	(32.45 to 37.02)				
3 months	26.03	29.61	-2.29	0.29		
	(23.01 to 29.06)	(26.61 to 32.61)	(-6.52 to 1.93)			
6 months	25.38	27.75	-0.58	0.79		
	(22.45 to 28.30)	(24.57 to 30.94)	(-4.84 to 3.68)			
9 months	25.74	24.97	2.23	0.31		
	(22.74 to 28.73)	(21.80 to 28.14)	(-2.05 to 6.52)			
12months	24.59	25.62	1.47	0.5		
	(21.39 to 27.79)	(22.20 to 29.04)	(-2.84 to 5.77)			

	Success n/N (%) Intervention group	**Success n/N (%) Control group**	**RR (95%CI)[§]**	**P-value**	**Risk difference (95%CI)**	**NNT**
GPR Success						
3 weeks	32/108 (29.63)	3/92 (3.26)	8.71 (3.09 to 17.85)	0.0001	29.37 (17.02 to 35.72)	4
6 weeks	35/119 (29.41)	7/108 (6.48)	4.24 (2.00 to 7.58)	0.0004	22.93 (13.52 to 32.34)	5
3 months	43/119 (36.13)	23/104 (22.12)	1.56 (0.93 to 2.34)	0.09	14.01 (2.27 to 25.77)	NA
6 months	46/113 (40.71)	33/99 (33.33)	1.18 (0.74 to 1.69)	0.46	7.38 (-5.60 to 20.35)	NA
9 months	41/106 (38.68)	36/96 (37.50)	0.91 (0.55 to 0.82)	0.69	1.18 (-12.23 to 14.59)	NA
12months	44/103 (42.72)	36/95 (37.89)	0.99 (0.61 to 1.44)	0.96	4.83 (-8.83 to 18.48)	NA
SACROILIAC JOINT TRIAL (without 7 protocol violators)	**Mean Intervention group (95%CI) N=116**	**Mean Control group (95%CI) N=105**	**Treatment effect (95%CI)**	**P-value**		

NRS Pain						
Overall effect†			-0.41 (-0.85 to 0.02)	0.06		
Baseline	7.17 (6.85 to 7.48)	7.05 (6.76 to 7.35)	-	-		
3 weeks	4.96 (4.51 to 5.40)	5.93 (5.51 to 6.35)	-0.92 (-1.59 to -0.24)	0.01		
6 weeks	5.22 (4.81 to 5.64)	5.7 (5.31 to 6.09)	-0.5 (-1.15 to 0.14)	0.13		
3 months	4.77 (4.31 to 5.24)	5.44 (4.91 to 5.97)	-0.73 (-1.39 to -0.07)	0.03		
6 months	4.5 (4.01 to 4.98)	4.9 (4.37 to 5.44)	-0.28 (-0.94 to 0.38)	0.4		
9 months	5.03 (4.55 to 5.51)	5.01 (4.40 to 5.63)	0.13 (-0.56 to 0.81)	0.72		
12 months	4.65 (4.16 to 5.13)	4.73 (4.16 to 5.31)	0.03 (-0.66 to 0.72)	0.93		
Secondary outcomes						

ODI Functioning*						
Overall effect			-0.31 (-3.79 to 3.17)	0.86		
Baseline	38.07 (35.40 to 40.74)	33.79 (30.82 to 36.76)	-	-		
3 months	27.72 (24.50 to 30.95)	29.46 (25.69 to 33.24)	-4.99 (-9.27 to -0.70)	0.02		
6 months	25.91 (22.91 to 29.05)	25.8 (22.17 to 29.44)	-0.95 (-5.26 to 3.36)	0.67		
9 months	28.4 (25.05 to 31.75)	23.83 (20.23 to 27.44)	3.88 (-0.53 to 8.28)	0.08		
12 months	27.29 (23.89 to 30.69)	24.72 (20.76 to 28.69)	1.71 (-2.75 to 6.46)	0.45		
	Success n/N (%) Intervention group	**Success n/N (%) Control group**	**RR (95%CI)[§]**	**P-value**	**Risk difference (95%CI)**	**NNT**
GPR Success						
3 weeks	28/94 (29.79)	8/82 (9.76)	3.02 (1.44 to 5.11)	0.0048	20.03 (8.77 to 31.29)	5
6 weeks	40/108 (37.04)	9/89 (10.11)	3.91	0.0001	26.93	4

			(2.06 to 6.13)		(15.87 to 37.98)	
3 months	43/110 (39.09)	17/82 (20.73)	1.96 (1.17 to 2.87)	0.01	18.36 (4.7 to 31.01)	5
6 months	46/103 (44.66)	26/83 (31.33)	1.39 (0.87 to 1.95)	0.16	13.33 (-0.51 to 27.18)	NA
9 months	36/101 (35.64)	23/73 (31.51)	1.15 (0.67 to 1.75)	0.58	4.13 (-10.03 to 18.31)	NA
12 months	49/102 (48.04)	23/70 (32.86)	1.41 (0.88 to 1.97)	0.14	15.18 (0.52 to 29.85)	NA
COMBINATION TRIAL (WITHOUT 14 PROTOCOL VIOLATORS)	**Mean Intervention group (95%CI) N=93**	**Mean Control group (95%CI) N=95**	**Mean difference (95%CI)**	**P-value**		
NRS Pain *						
Overall effect†			-0.19 (-0.78 to 0.40)	0.53		
Baseline	7.28 (6.98 to 7.58)	7.45 (7.14 to 7.77)	-	-		
3 weeks	5.46	6.38	-0.58	0.19		

	(4.93 to 6.00)	(5.87 to 6.90)	(-1.44 to 0.28)			
6 weeks	5.37	6.03	-0.31	0.43		
	(4.86 to 5.89)	(5.58 to 6.47)	(-1.10 to 0.47)			
3 months	4.74	5.96	-1.04	0.01		
	(4.16 to 5.31)	(5.42 to 6.50)	(-1.82 to -0.25)			
6 months	4.84	4.89	0.36	0.37		
	(4.27 to 5.41)	(4.27 to 5.51)	(-0.44 to 1.16)			
9 months	4.99	5.26	-0.09	0.83		
	(4.42 to 5.56)	(4.64 to 5.88)	(-0.90 to 0.72)			
12 months	4.85	4.41	0.67	0.12		
	(4.21 to 5.50)	(3.73 to 5.10)	(-0.17 to 1.52)			
Secondary outcomes						
ODI Functioning*						
Overall effect†			2.52	0.25		
			(-1.79 to 6.83)			
Baseline	39.22	37.21	-	-		
	(36.26 to 42.18)	(34.22 to 40.20)				
3 months	28.03	33.66	-4.54	0.08		

	(224.45 to 31.60)	(29.74 to 37.58)	(-9.69 to 0.61)			
6 months	30.75 (36.32 to 35.18)	28.51 (24.50 to 32.51)	5.31 (0.08 to 10.54)	0.05		
9 months	31.16 (27.05 to 35.27)	28.63 (24.36 to 32.89)	4.24 (-1.06 to 9.54)	0.12		
12 months	31.38 (27.16 to 35.60)	24.7 (20.76 to 28.65)	7.18 (1.71 to 12.64)	0.01		
	Success n/N (%) Intervention group	**Success n/N (%) Control group**	**RR (95%CI)[§]**	**P-value**	**Risk difference (95%CI)**	**NNT**
3 weeks	17/72 (23.61)	4/53 (7.55)	2.25 (0.73 to 5.56)	0.15	16.06 (3.95 to 28.18)	NA
6 weeks	24/84 (28.57)	7/79 (8.86)	2.4 (0.98 to 4.89)	0.05	19.71 (8.20 to 31.23)	5
3 months	30/80 (37.50)	13/76 (17.10)	2.07 (1.02 to 3.43)	0.04	21.4 (8.02 to 35.27)	5
6 months	28/77 (36.36)	27/71 (38.03)	0.78 (0.40 to 1.34)	0.42	-1.67 (-17.25 to 13.92)	NA

9 months	27/76 (35.52)	21/66 (31.81)	1.08 (0.55 to 1.78)	0.81	3.71 (-11.85 to 19.27)	NA
12 months	24/68 (35.29)	22/58 (37.93)	0.86 (0.42 to 1.46)	0.63	-2.64 (-19.25 to 14.24)	NA

Values presented (for mean differences and Relative Risks) are model estimates of linear mixed-effects models with a random intercept, and adjusted for outcome at baseline and age, gender, BMI, education, smoking, marital status, back pain complaint history, patient expectations. Regression coefficients can be interpreted as mean differences between interventions at a certain follow-up moment compared to baseline. Abbreviations: SD, Standard Deviation; NRS, Numeric Rating Scale (0-10); GPR, Global Perceived Recovery (1-7; 1-2 indicate success); ODI, Oswestry Disability Index (0-100); RR, Relative Risk; NNT, Numbers Needed to Treat. * Higher score indicates more severe symptoms. § RRs are estimated based on the method of Zhang et al.[32] † The overall effect measures provide information over the total follow-up time of 12 months, instead of the time-by-treatment effects.

eTable 4. Treatment Effects for Pain Intensity, Functional Status, and Global Perceived Recovery Based on an As-Treated After 3 Months

FACET JOINT TRIAL	Mean Intervention group (95%CI) N=125	Mean Control group (95%CI) N=77	Mean difference (95%CI)	P-value		
NRS Pain*						
Overall effect †			0.1 (-0.39 to 0.58)	0.7		
Baseline	7.14 (6.88 to 7.39)	7.07 (6.76 to 7.38)	-	-		
3 weeks	5.17 (4.73 to 5.61)	5.6 (5.12 to 6.08)	-0.13 (-0.83 to 0.57)	1.28		
6 weeks	5.19 (4.76 to 5.61)	5.6 (5.08 to 6.11)	-0.14 (-0.8 to 0.52)	1.32		
3 months	5.01 (4.59 to 5.43)	5.23 (4.68 to 5.77)	-0.02 (-0.68 to 0.64)	1.05		
6 months	4.61 (4.18 to 5.04)	4.62 (4.04 to 5.20)	0.16 (-0.52 to 0.84)	0.64		
9 months	4.66 (4.20 to 5.00)	4.52 (3.88 to 5.15)	0.28 (-0.41 to 0.97)	0.42		

12 months	4.49 (4.00 to 4.97)	4.28 (3.68 to 4.88)	0.55 (-0.15 to 1.2)	0.12		
Secondary outcomes						
ODI Functioning*						
Overall effect †			0.89 (-2.79 to 4.58)	0.64		
Baseline	35.08 (32.39 to 37.76)	33.89 (30.75 to 37.03)	-	-		
3 months	26.03 (23.01 to 29.06)	27.77 (23.75 to 31.79)	-0.86 (-1.27 to -0.45)	2		
6 months	25.38 (22.45 to 28.30)	26.45 (22.28 to 30.63)	0.3 (-3.87 to 4.47)	0.89		
9 months	25.74 (22.74 to 28.73)	23.84 (19.51 to 28.16)	2.21 (-2.00 to 6.42)	0.3		
12 months	24.59 (21.39 to 27.79)	23.77 (19.60 to 27.94)	2.42 (-1.81 to 6.65)	0.26		
	Success n/N (%) Intervention group	**Success n/N (%) Control group**	**RR (95%CI)** [§]	**P-value**	**Risk difference (95%CI)**	**NNT**
GPR success						

3 weeks	32/108 (29.63)	5/58 (8.62)	3.07 (1.26 to 5.99)	0.02	21.01 (9.77 to 32.25)	5
6 weeks	35/119 (29.41)	8/72 (11.11)	2.28 (1.07 to 4.16)	0.03	18.3 (7.36 to 29.24)	6
3 months	43/119 (36.13)	22/71 (30.98)	1.02 (0.57 to 1.60)	0.94	5.15 (-8.64 to 18.94)	NA
6 months	46/113 (40.71)	26/66 (39.39)	0.9 (0.52 to 1.38)	0.68	1.32 (-13.55 to 16.18)	NA
9 months	41/106 (38.67)	27/62 (43.55)	0.75 (0.42 to 1.18)	0.25	-4.88 (-20.31 to 10.57)	NA
12 months	44/103 (42.72)	28/61 (45.90)	0.75 (0.42 to 1.19)	0.25	-3.18 (-18.92 to 12.55)	NA

eTable 4. Treatment Effects for Pain Intensity, Functional Status, and Global Perceived Recovery Based on an As-Treated After 3 Months (continued)

SACROILIAC JOINT TRIAL	Mean Intervention group (95%CI) N=125	Mean Control group (95%CI) N=77	Mean difference (95%CI)	P-value		
NRS Pain*						
Overall effect †			-0.19 (-0.68 to 0.30)	0.44		
Baseline	7.17 (6.85 to 7.48)	6.73 (6.35 to 7.07)	-	-		
3 weeks	4.96 (4.51 to 5.40)	5.62 (5.06 to 6.11)	-0.57 (-1.33 to 0.19)	0.14		
6 weeks	5.22 (4.81 to 5.64)	5.37 (4.83 to 5.82)	-0.20 (-0.93 to 0.52)	0.58		
3 months	4.77 (4.31 to 5.24)	4.78 (4.01 to 5.42)	-0.07 (-0.82 to 0.69)	0.86		
6 months	4.50 (4.01 to 4.98)	4.70 (3.95 to 5.39)	-0.11 (-0.86 to 0.65)	0.79		
9 months	5.03 (4.55 to 5.51)	5.24 (4.35 to 5.93)	-0.17 (-0.95 to 0.62)	0.67		
12 months	4.65 (4.16 to 5.13)	4.53 (3.81 to 5.19)	0.15 (-0.64 to 0.95)	0.71		
Secondary outcomes						
ODI Functioning*						
Overall effect †			2.26 (-1.83 to 6.35)	0.28		
Baseline	38.07 (35.40 to 40.74)	31.81 (28.21 to 35.34)	-	-		
3 months	27.72	24.60	0.03	0.99		

	(24.50 to 30.95)	(20.19 to 29.01)	(-4.95 to 5.00)			
6 months	25.91 (22.91 to 29.05)	23.24 (18.78 to 27.70)	1.12 (-3.86 to 6.10)	0.66		
9 months	28.40 (25.05 to 31.75)	22.10 (17.09 to 27.09)	4.82 (-0.30 to 9.94)	0.06		
12 months	27.29 (23.89 to 30.69)	21.07 (16.57 to 25.58)	3.64 (-1.52 to 8.81)	0.17		
	Success n/N (%) Intervention group	**Success n/N (%) Control group**	**RR (95%CI)** [§]	**P-value**	**Risk difference (95%CI)**	**NNT**
GPR Success						
3 weeks	28/94 (29.78)	6/57 (10.53)	2.70 (1.61 to 5.06)	0.024	19.25 (7.06 to 31.47)	5
6 weeks	40/108 (37.04)	6/60 (10.00)	3.58 (1.67 to 6.09)	0.002	27.04 (15.18 to 38.89)	4
3 months	43/110 (39.09)	15/52 (28.85)	1.40 (0.78 to 2.12)	0.23	10.24 (-5.08 to 25.57)	NA
6 months	46/103 (44.66)	17/52 (32.69)	1.34 (0.78 to 1.96)	0.26	11.97 (-3.99 to 27.93)	NA
9 months	36/101 (35.64)	13/45 (28.88)	1.32 (0.69 to 2.09)	0.37	6.76 (-9.45 to 22.96)	NA
12 months	49/102 (48.03)	14/43 (32.56)	1.44 (0.82 to 2.09)	0.18	15.47 (-1.55 to 32.52)	NA

eTable 4. Treatment Effects for Pain Intensity, Functional Status, and Global Perceived Recovery Based on an As-Treated After 3 Months (continued)

COMBINATION TRIAL	**Mean Intervention group (95%CI) N=103**	**Mean Control group (95%CI) N=68**	**Mean difference (95%CI)**	**P-value**		
NRS Pain (SD)*						
Overall effect †			-0.22 (-0.85 to 0.40)	0.48		
Baseline	7.19 (6.91 to 7.48)	7.47 (7.08 to 7.87)	-	-		
3 weeks	5.45 (4.95 to 5.95)	6.66 (6.11 to 7.20)	-0.75 (-1.70 to 0.19)	0.12		
6 weeks	5.37 (4.89 to 5.85)	5.96 (5.37 to 6.56)	-0.08 (-0.91 to 0.75)	0.85		
3 months	4.77 (4.25 to 5.00)	5.64 (4.94 to 6.34)	-0.73 (-1.56 to 0.11)	0.09		
6 months	4.92 (4.39 to 5.44)	5.36 (4.57 to 6.14)	-0.07 (-0.93 to 0.78)	0.87		
9 months	5.01 (4.47 to 5.56)	5.38 (4.60 to 6.15)	-0.26 (-1.14 to 0.61)	0.55		
12 months	4.85 (4.24 to 5.46)	4.53 (3.60 to 5.46)	0.56 (-0.34 to 1.45)	0.23		
Secondary outcomes						
ODI Functioning*						
Overall effect †			1.59 (-2.97 to 6.15)	0.49		
Baseline	39.06 (36.25 to 41.87)	36.34 (32.79 o 38.90)	-	-		

3 months	28.00 (24.65 to 31.35)	30.96 (26.08 to 35.84)	-3.10 (-8.55 to 2.34)	1.74		
6 months	30.24 (26.14 to 34.34)	30.09 (24.51 to 35.67)	2.31 (-3.25 to 7.88)	0.42		
9 months	30.73 (26.83 to 34.63)	27.74 (22.00 to 33.48)	2.89 (-2.83 to 8.60)	0.32		
12 months	31.20 (27.20 to 35.20)	23.94 (18.51 to 29.38)	6.03 (0.78 to 11.89)	0.04		
	Success n/N (%) Intervention group	**Success n/N (%) Control group**	**RR (95%CI)** [§]	**P-value**	**Risk difference (95%CI)**	**NNT**
GPR success						
3 weeks	17/77 (22.07)	2/33 (6.06)	3.03 (0.69 to 8.80)	0.13	16.01 (3.68 to 28.35)	NA
6 weeks	25/90 (27.78)	5/52 (9.62)	2.16 (0.76 to 4.89)	0.14	18.16 (5.92 to 30.40)	NA
3 months	30/88 (34.09)	10/50 (20.00)	1.77 (1.64 to 1.90)	<0.0001	14.09 (-0.78 to 28.96)	7
6 months	30/85 (35.29)	15/45 (33.33)	0.92 (0.40 to 1.68)	0.81	1.96 (-15.15 to 19.08)	NA
9 months	29/82 (35.36)	13/41 (31.71)	1.13 (0.49 to 1.98)	0.74	3.65 (-13.95 to 21.26)	NA
12 months	26/75 (34.67)	11/36 (30.56)	1.19 (0.38 to 3.72)	0.76	4.11 (-14.39 to 22.62)	NA

Values presented (for mean differences and Relative Risks) are model estimates of linear mixed-effects models with a random intercept, and adjusted for outcome at baseline and age, gender, BMI, education, smoking, marital status, back pain complaint history, patient expectations. Regression coefficients can be interpreted as mean differences between interventions at a certain follow-up moment compared to baseline. Abbreviations: SD, Standard Deviation; NRS, Numeric Rating Scale (0-10); GPR, Global Perceived Recovery (1-7, 1-2 indicate success); ODI, Oswestry Disability Index (0-100); RR, Relative Risk; NNT, Numbers Needed to Treat. *

Higher score indicates more severe symptoms. § RRs are estimated based on the method of Zhang et al.[32] † The overall effect measures provide information over the total follow-up time of 12 months, instead of the time-by-treatment effects.

eTable 5. Treatment Effects for Complete Cases for Pain Intensity, Functional Status, and Global Perceived Recovery Based on Intention-To-Treat Analyses

FACET JOINT TRIAL	Mean Intervention group (95%CI) N=72	Mean Control group (95%CI) N=80	Mean difference (95%CI)	P-value		
NRS Pain*						
Overall effect †			-0.44 (-0.96 to 0.07)	0.09		
Baseline	6.94 (6.59 to 7.30)	7.14 (6.85 to 7.42)	-	-		
3 weeks	5.15 (4.63 to 5.68)	5.86 (5.46 to 6.26)	-0.54 (-1.25 to 0.18)	0.14		
6 weeks	4.94 (4.42 to 5.47)	5.89 (5.45 to 6.32)	-0.77 (-1.48 to -0.06)	0.03		
3 months	4.47 (3.97 to 4.97)	5.21 (4.71 to 5.72)	-0.57 (-1.28 to 0.15)	0.12		
6 months	4.32 (3.79 to 4.85)	4.81 (4.27 to 5.35)	-0.32 (-1.03 to 0.39)	0.38		
9 months	4.17	4.84	-0.5	0.17		

	(3.62 to 4.71)	(4.28 to 5.39)	(-1.21 to 0.21)			
12 months	4.18	4.31	0.04	0.91		
	(3.59 to 4.77)	(3.75 to 4.88)	(-0.67 to 0.75)			
Secondary outcomes						
ODI Functioning*						
Overall effect †			-1.17 (-4.89 to 2.55)	0.54		
Baseline	34.28	33.47	-	-		
	(31.02 to 37.53)	(30.99 to 35.96)				
3 months	23.31	26.9	-3.6	0.1		
	(19.80 to 26.81)	(23.75 to 30.05)	(-7.83 to 0.63)			
6 months	24.06	25.1	-1.05	0.63		
	(20.48 to 27.63)	(21.75 to 28.45)	(-5.28 to 3.18)			
9 months	23.58	24.25	-0.67	0.76		
	(20.23 to 26.94)	(21.05 to 27.45)	(-4.90 to 2.56)			
12 months	24.22	23.57	0.64	0.77		
	(20.46 to 27.99)	(20.22 to 26.93)	(-3.59 to 4.87)			
	Success n/N (%) Intervention group	**Success n/N (%) Control group**	**RR (95%CI) §**	**P-value**	**Risk difference (95%CI)**	**NNT**

GPR Success						
3 weeks	22/72 (30.56)	5/80 (6.25)	4.83 (1.98 to 9.10)	0.0011	24.31 (12.42 to 36.19)	4
6 weeks	20/72 (27.78)	8/80 (10.00)	2.73 (0.72 to 6.45)	0.13	17.88 (5.52 to 30.04)	NA
3 months	31/72 (43.06)	21/80 (26.25)	1.63 (0.95 to 1.88)	0.07	16.81 (1.85 to 31.76)	NA
6 months	31/72 (43.06)	30/80 (37.50)	1.14 (0.67 to 1.65)	0.61	5.56 (-10.04 to 21.16)	NA
9 months	30/72 (41.67)	30/80 (37.50)	1.09 (0.63 to 1.61)	0.72	4.17 (-11.40 to 19.73)	NA
12 months	31/72 (43.06)	33/80 (41.25)	1.02 (0.84 to 1.49)	0.92	1.81 (-13.92 to 17.53)	NA
SACROILIAC JOINT TRIAL	**Mean Intervention group (95%CI) N=75**	**Mean Control group (95%CI) N=57**	**Mean difference (95%CI)**	**P-value**		
NRS Pain*						
Overall effect †			-0.29 (-0.84 to 0.25)	0.29		
Baseline	7.07	7.12	-	-		

	(6.66 to 7.47)	(6.68 to 7.57)				
3 weeks	5	6.14	-1	0.01		
	(4.49 to 5.51)	(5.61 to 6.67)	(-1.80 to -0.20)			
6 weeks	5.09	5.95	-0.74	0.07		
	(4.60 to 5.59)	(5.43 to 6.46)	(-1.54 to 0.06)			
3 months	4.63	5.43	-0.7	0.09		
	(4.02 to 5.23)	(4.75 to 6.11)	(-1.50 to 0.10)			
6 months	4.44	4.37	0.18	0.66		
	(3.86 to 5.02)	(3.70 to 5.04)	(-0.62 to 0.98)			
9 months	5.05	4.75	0.42	0.31		
	(4.51 to 5.59)	(4.05 to 5.46)	(-0.38 to 1.22)			
12 months	4.65	4.7	0.06	0.88		
	(4.09 to 5.22)	(4.05 to 5.36)	(-0.74 to 0.86)			
Secondary outcomes						
ODI Functioning*						
Overall effect †			-0.31 (3.47 to 2.85)	0.53		
Baseline	37.95	34.46	-	-		
	(34.55 to 41.34)	(30.68 to 38.23)				

3 months	27.12 (22.91 to 31.33)	30.46 (25.54 to 35.38)	-5.17 (-9.28 to -1.06)	0.07		
6 months	26.03 (22.26 to 29.80)	22.95 (18.91 to 26.98)	0.45 (-3.87 to 4.36)	0.47		
9 months	29.2 (25.19 to 33.21)	22.6 (18.66 to 26.53)	2.84 (-1.27 to 6.95)	0.03		
12 months	27.79 (23.71 to 31.86)	23.82 (19.56 to 28.09)	0.84 (-3.28 to 4.95)	0.3		
	Success n/N (%) Intervention group	**Success n/N (%) Control group**	**RR (95%CI)** [§]	**P-value**	**Risk difference (95%CI)**	**NNT**
GPR Success						
3 weeks	21/75 (28.00)	7/57 (12.28)	2.32 (1.00 to 4.33)	0.049	15.72 (2.46 to 28.98)	6
6 weeks	29/75 (38.66)	5/57 (8.78)	4.53 (2.00 to 7.64)	0.001	29.88 (16.65 to 43.14)	3
3 months	31/75 (41.33)	14/57 (24.56)	1.7 (0.93 to 2.58)	0.08	16.77 (0.99 to 32.55)	NA

6 months	35/75 (46.66)	23/57 (40.35)	1.15 (0.68 to 1.65)	0.55	6.31 (-10.70 to 23.34)	NA
9 months	27/75 (36.00)	20/57 (35.08)	1.03 (0.55 to 1.62)	0.94	0.92 (-15.57 to 17.39)	NA
12 months	36/75 (48.00)	21/57 (36.84)	1.31 (0.78 to 1.85)	0.28	11.16 (-5.71 to 28.03)	NA
COMBINATION TRIAL	**Mean Intervention group (95%CI) N=60**	**Mean Control group (95%CI) N=45**	**Mean difference (95%CI)**	**P-value**		
NRS Pain (SD)*						
Overall effect †			0.17 (-0.52 to 0.85)	0.63		
Baseline	7.3 (6.97 to 7.63)	7.47 (7.09 to 7.84)	-	-		
3 weeks	5.4 (4.78 to 6.00)	6.39 (5.63 to 7.04)	-0.85 (-1.87 to 0.17)	0.1		
6 weeks	5.73 (5.19 to 6.27)	5.93 (5.24 to 6.53)	0.03 (-0.89 to 0.95)	0.95		
3 months	5.1	5.67	-0.6	0.2		

	(4.49 to 5.71)	(5.04 to 6.47)	(-1.52 to 0.31)			
6 months	4.98	4.37	0.81	0.08		
	(4.37 to 5.60)	(3.56 to 5.06)	(-0.10 to 1.73)			
9 months	5.17	5.02	0.31	0.5		
	(4.55 to 5.79)	(4.23 to 5.73)	(-0.60 to 1.23)			
12 months	4.88	4.22	0.8	0.09		
	(4.18 to 5.58)	(3.47 to 4.98)	(-0.12 to 1.72)			
Secondary outcomes						
ODI Functioning (SD)*						
Overall effect †			4.23 (-0.34 to 8.80)	0.07		
Baseline	38	37.16	-	-		
	(34.61 to 41.39)	(32.48 to 41.83)				
3 months	29.63	33.11	-2.85	0.32		
	(25.68 to 33.58)	(28.33 to 37.89)	(-8.46 to 2.76)			
6 months	30.6	24.96	6.86	0.02		
	(26.06 to 35.14)	(20.29 to 28.77)	(1.25 to 12.47)			
9 months	31.03	26.22	6.36	0.03		
	(26.55 to 35.51)	(21.71 to 30.74)	(0.75 to 11.97)			

12 months	30.27 (25.79 to 34.74)	25.3 (20.89 to 28.98)	6.56 (0.95 to 12.17)	0.02		
	Success n/N (%) Intervention group	**Success n/N (%) Control group**	**RR (95%CI)** [§]	**P-value**	**Risk difference (95%CI)**	**NNT**
GPR Success						
3 weeks	10/60 (16.67)	2/45 (4.44)	2.57 (0.53 to 9.17)	0.23	12.23 (1.03 to 23.41)	NA
6 weeks	14/60 (23.33)	5/45 (11.11)	1.68 (0.53 to 4.10)	0.36	12.22 (-1.88 to 26.32)	NA
3 months	17/60 (28.33)	8/45 (17.78)	1.61 (0.61 to 3.24)	0.32	10.55 (-5.41 to 26.52)	NA
6 months	20/60 (33.33)	22/45 (47.89)	0.58 (0.24 to 1.10)	0.11	-14.56 (-34.41 to 3.30)	NA
9 months	19/60 (31.67)	16/45 (35.56)	0.78 (0.32 to 1.49)	0.5	-3.89 (-22.17 to 14.39)	NA
12 months	19/60 (31.67)	16/45 (35.56)	0.48 (0.32 to 1.49)	0.5	-3.89 (-22.17 to 14.39)	NA

Values presented (for mean differences and Relative Risks) are model estimates of linear mixed-effects models with a random intercept, and adjusted for outcome at baseline and age, gender, BMI, education, smoking, marital status, back pain complaint history, patient expectations. Regression coefficients can be interpreted as mean differences between interventions at a certain follow-up moment compared to baseline. Abbreviations: SD, Standard Deviation; NRS, Numeric Rating Scale (0-10); GPR, Global Perceived Recovery (1-7, 1-2 indicate success); ODI, Oswestry Disability Index (0-100); RR, Relative Risk; NNT, Numbers Needed to Treat. * Higher score indicates more severe symptoms. § RRs are estimated based on the method of Zhang et al.[32] † The overall effect measures provide information over the total follow-up time of 12 months, instead of the time-by-treatment effects.

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